REMARKS

In the Office Action dated May 20, 2004, claims 1, 5, 6-9, 11, 13, and 14 were rejected under 35 U.S.C. § 102 over U.S. Patent No. 6,515,963 (Bechtolsheim); and claims 2-4, 10, 12, and 15-17 were rejected under § 103 over Bechtolsheim in view of U.S. Patent No. 6,438,704 (Harris).

It is respectfully submitted that claim 1 is not anticipated by Bechtolsheim. Note that claim 1 recites:

- granting a request if the request if allowed would not exceed a *soft limit* of a potential user,
- denying the request if the request if allowed would exceed a *hard limit* of the potential user, *and*
- denying the request if the request if allowed would cause a grand total allocation of the resource for plural users to exceed a *high watermark.*

The Office Action cited to Figures 3, 9, and 10, and the accompanying description, of Bechtolsheim as teaching the elements of claim 1. 5/20/2004 Office Action at 2-3.

The Office Action specifically cited element 340 of Figure 3 and element 1010 of Figure 10 of Bechtolsheim as teaching the last element of claim 1, namely "denying the request if the request if allowed would cause a grand total allocation of the resource for plural users to exceed a high watermark." Element 340 of Figure 3 cannot satisfy this element of claim 1, as element 340 of Figure 3 teaches the tagging of a packet in response to determining that a buffer count (for a *single flow*) is greater than the dynamic buffer limit (DBL).

Element 1010 of Figure 10 is the path followed by the logic in the embodiment of Figure 10 if the number of free cells on the arrival of a packet is less than the total reserve set aside for packets of higher precedence level. Bechtolsheim, 13:46-49. However, the remainder of the embodiment of Figure 10 does not satisfy the other elements of claim 1, namely the granting of a request if the request if allowed would not exceed a soft limit of a potential user, and denying the request if the request if allowed would exceed a hard limit of the potential user. In Figure 10, if the number of free cells is less than or equal to the reserve, then the logic of Figure 10 detects whether a buffer count is greater than or

less than a dynamic buffer limit. Note, only *one* dynamic buffer limit is considered in the embodiment of Figure 10. The Figure 10 embodiment does not teach the granting or denying of a request based on both a soft limit and a hard limit.

Recognizing that Figure 10 does not disclose the consideration of a soft limit and a hard limit as recited in claim 1, the Office Action relied instead on Figure 9 as teaching the soft and hard limits. Note that Figure 9 depicts an *alternative* embodiment of the dynamic buffer mechanism described in Bechtolsheim. It is improper for the Office Action to use a portion of Figure 9 and a portion of Figure 10 to achieve the claimed invention. Specifically, Bechtolsheim does *not* teach that the reserve comparison of the Figure 10 embodiment can be combined with the soft and hard limit comparisons of the Figure 9 embodiment.

A person of ordinary skill in the art looking to the teachings of Bechtolsheim would have been taught that *either* the Figure 9 embodiment *or* the Figure 10 embodiment can be employed. In Figure 9, the buffer count is compared with a soft limit and a hard limit (step 905 of Figure 9 of Bechtolsheim). If the buffer count is less than or equal to a soft limit, then the packet is enqueued (step 330 of Figure 9 of Bechtolsheim). However, if the buffer count is greater than a soft limit or less than or equal to a hard limit, the incoming packet is tagged (step 340 of Figure 9 of Bechtolsheim). If the buffer count is greater than a hard limit, then the packet is dropped (step 650 of Figure 9 of Bechtolsheim).

Although the Figure 9 embodiment of Bechtolsheim compares a buffer count to a soft limit and a hard limit is performed, there is no teaching in Bechtolsheim that the Figure 9 embodiment will perform a comparison of the number of free cells to a reserve value.

On the other hand, if a person of ordinary skill in the art looking to the teachings of Bechtolsheim would have been led to use the Figure 10 embodiment, then such a person would have been taught to use the combination of comparison of free cells to a reserve value and comparison of buffer count to *one* dynamic buffer limit, *not* to both soft and hard limits.

The Office Action has failed to point to any teaching within Bechtolsheim that would have taught a person of ordinary skill in the art that the Figure 9 and Figure 10 embodiments could have been combined.

A further defect of the teachings pertaining to the Figure 10 embodiment of Bechtolsheim is that the comparison of the number of free buffer cells with the reserve value does not constitute denying the request if the request *if allowed* would cause a grand total allocation of the resource to exceed the high watermark. As explained by Bechtolsheim, the number of free cells compared to the reserve value is the number of free cells *on* the arrival of the incoming packet. In other words, if the number of free cells is already greater than the reserve value, then any incoming packet would be denied, regardless of the resource requirements of the incoming packet. In contrast, claim 1 recites that the request is denied if the request *if allowed* would *cause* a grand total allocation of the resource for plural users to exceed the high watermark. This implies that the current request under consideration factors into the decision of whether the request is denied or not. That is clearly not the case in the Figure 10 embodiment of Bechtolsheim.

In response to this argument, the Advisory Action made the following statement:

> Applicants misinterpreted the illustration of fig. 10 by stating that 'if the number of free cells is already greater than the reserve value, then any incoming packet would be denied, regarless [sic] of the resource requirement of the incoming packet (page 8, 1st paragraph). This is incorrect. The number of free cells is the resource availability and the reserve value is the total value set aside for the incoming packets (packets size). Fig. 10 shows a comparison between the allocated/reserved space with the incoming packets size. This clearly take into the consideration of the resource requirement of the incoming packets.

The statement "Fig. 10 shows a comparison between the allocated/reserved space with the incoming packets [sic] size" made in the Advisory Action is not supported by the specification. The "Size" referred to in Figure 10 represents the number of free cells. As explicitly taught by Bechtolsheim, "if the number of free cells on its arrival [arrival of the packet] is less than the total reserve set aside for packets of higher precedence level," then the packet is tagged rather than tested against DBL. Bechtolsheim, 13:46-49. There is absolutely no indication whatsoever in the description associated with Figure 10 that the "Size" parameter referred to is the size of the packet. The statement made in the

Advisory Action is therefore not supported by the teachings of Bechtolsheim. For this addition reason, claim 1 is not anticipated by Bechtolsheim.

Similarly, independent claim 11 is also allowable over Bechtolsheim. Bechtolsheim does not disclose a resource manager that in a normal mode:

- grants a request if the request if allowed would not exceed a *soft limit*,
- denies the request if the request if allowed would exceed a *hard limit, and*
- denies the request if the request if allowed would cause a grand total allocation of the resource for plural users to exceed the *high watermark.*

As explained above, Figure 3 of Bechtolsheim does not disclose a soft limit and a hard limit, and Figure 9 of Bechtolsheim fails to disclose denying the request if the request if allowed would cause a grand total allocation of the resource for plural users to exceed the *high watermark*, in conjunction with granting and denying of the request based on a soft limit and hard limit.

Figure 10 of Bechtolsheim fails to disclose the soft limit and hard limit recited in claim 11. Moreover, the comparison of the number of free buffer cells with a reserve value does not take into account the requirements of the current incoming packet. Therefore, Bechtolsheim cannot satisfy the element in claim 1 of denying the request if the request *if allowed* would *cause* a grand total allocation of the resource for the plural users to exceed the high watermark. Therefore, claim 11 is not anticipated by Bechtolsheim.

Claims dependent from independent claims 1 and 11 are allowable for at least the reason that Bechtolsheim fails to disclose the subject matter of the independent claims.

Dependent claims 2-4, 10, 12, and 15-17 were rejected as being obvious over the asserted combination of Bechtolsheim and Harris. To establish a *prima facie* case of obviousness, at least the following two requirements must be satisfied: (1) there must some motivation or suggestion to combine the teachings of the references; and (2) the references when combined must teach or suggest *all* elements of the claim. *See* MPEP § 2143 (8th ed., Rev. 2) at 2100-129. The Office Action has failed to satisfy either of the two requirements in rejecting the claims over Bechtolsheim and Harris.

There did not exist any motivation or suggestion to combine the teachings of Bechtolsheim and Harris. Bechtolsheim describes a dynamic buffer management scheme

implemented in a router or bridge in a network for processing incoming packets. On the other hand, Harris relates to scheduling CPU usage among a plurality of users by allocating time slices of the CPU among the users. There does not appear to be any relation between the scheduling of the CPU resource, as described in Harris, and the buffer management scheme for packets of a network described in Bechtolsheim. The current obviousness rejection is a classic example of picking and choosing arbitrary elements from unrelated prior art references in an attempt to piece together unrelated elements to achieve the claimed invention, where no motivation or suggestion existed for the combination.

It is well established law that "[t]he mere fact that the prior art could be [modified in the manner proposed] would not have made the modification **obvious** unless the prior art suggested the **desirability** of the modification. *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125 (Fed. Cir. 1984) (emphasis added). As the Federal Circuit has stated, "virtually all [inventions] are combinations of old elements." *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453 (Fed. Cir. 1998). "Most, if not all, inventions are combinations and mostly of old elements." *Id.*

> Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be 'an illogical and inappropriate process by which to determine patentability.'

Id.

Here, there simply did not exist any reason or desirability to incorporate the CPU scheduling scheme of Harris into the buffer management mechanism of Bechtolsheim. In fact, the router or switch of Bechtolsheim would have absolutely no need for the CPU scheduling mechanism described in Harris. The buffer manager that performs buffer management in Bechtolsheim makes the decision to either enqueue an incoming packet, tag the incoming packet, or drop the incoming packet, based on various criteria. This buffer manager does not require any CPU scheduling among a plurality of users--as all

the buffer manager 25 does is receive incoming packets and makes decisions with what to do with such incoming packets.

In response to Applicant's argument that no motivation or suggestion existed to combine Bechtolsheim and Harris, the Examiner in the Advisory Action stated:

> [T]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. *See In re Keller,* 642 F.2d 413, 208 U.S.P.Q. 871 (CCPA 1981).

The Advisory Action also stated that the motivation for combining the references can be found in the "knowledge generally available to one of ordinary skill in the art." The Advisory Action did not identify what that "knowledge generally available to one of ordinary skill in the art" includes. Without a specific identification of what this common knowledge is, no support has been provided by the Office Action for the obviousness rejection.

It is respectfully submitted that Applicant's arguments presented above specifically address the issue that the teachings of the references would *not* have suggested to those of ordinary skill in the art the claimed subject matter. The following was the extent of the rationale provided by the Office Action to combine the teachings of Bechtolsheim and Harris:

> It would have been obvious for one of an [sic] ordinary skill in the art, at the time the invention was made to incorporate Harris' teaching together with Bechtolsheim's system so the subsequent and/or additional requests can be fulfilled.

5/20/2004 Office Action at 4.

This conclusory statement does not adequately address why a person of ordinary skill in the art would have been motivated to combine the teachings of Bechtolsheim and Harris. It is respectfully submitted that, without the teachings of the disclosure of the present invention, a person of ordinary skill in the art would not have combined Bechtolsheim and Harris to achieve the claimed invention.

Because there was no motivation or suggestion to combine the teachings of Bechtolsheim and Harris in the manner proposed by the Office Action, the *prima facie* case of obviousness is defective for at least this reason.

Moreover, with respect to dependent claim 2, contrary to the assertion in the Office Action, Harris fails to disclose or suggest the feature of entering a reduction *mode for handling a subsequent request* for allocation of the resource, where entering the reduction mode is part of the step of denying the request if the request if allowed would cause the grand total allocation of the resource for the plural users to exceed the high watermark. The Office Action cited to column 12, line 38 through column 13, line 22, of Harris as disclosing such a feature. The cited passage of Harris refers to normalization of a required fraction R'. Harris, 11:66-67. As explained earlier in Harris, the fraction R' is the fraction of processor time (between 0 and 1) that is allocated to a user. Harris, 10:17-22. To ensure that the allocated fraction R' for multiple users of the computer system do not exceed the value 1, the required fraction R' for each user is normalized so that the required fractions of all users in a dispatch list add to the value one. Harris, 10:32-35. The passage in columns 11, 12, and 13 of Harris cited by the Office Action refers to the different normalization cases to determine the normalized R'. Determining the normalized R' is part of the standard scheduling task performed by the scheduler of Harris, and thus does not constitute the scheduler entering a reduction mode for handling a subsequent request for allocation of the resource. Therefore, the hypothetical combination of Bechtolsheim and Harris fails to teach or suggest each and every element of claim 2.

In response to this argument above, the Advisory Action stated:

> [A] recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art.

Applicant disagrees with the assertion that the subject matter recited in claim 2 constitutes an "intended use of the claimed invention." The subject matter of claim 2 is an express element of the invention of claim 2. It is not merely a field of use limitation provided in a preamble. Moreover, claim 2 is a *method* claim – therefore, it is unclear what structure the Advisory Action is referring to. The Advisory Action also stated that "[i]n a claim drawn to a process of making, the intended use must result in a manipulative

difference as compared to the prior art." Claim 2 is not a process of "making." Moreover, as stated above, claim 2 clearly is not drawn to an intended use. Withdrawal of the obviousness rejection is therefore respectfully requested.

Similarly, with respect to dependent claim 12, which depends from claim 11, there is no teaching or suggestion by Harris (contrary to the assertion in the Office Action) of a resource manager that switches to a *reduction mode* if the request if allowed would cause the grand total allocation to exceed the high watermark such that the resource manager grants all subsequent request that reduce a consumption of the resource while in the reduction mode. With respect to claim 15 which depends from claim 11, Harris does not disclose or suggest a resource manager that enters a reduction mode for handling a subsequent request for allocation of the resource if the request if allowed would exceed the high watermark.

Newly added claims 18-26 are also allowable over the cited references. With respect to independent claim 18, the cited references do not disclose or suggest a method of allocating a resource that comprises: providing a first limit, a second limit, and a third limit; receiving a request from a task associated with a first user for allocation of a portion of the resource; granting the request in response to determining that granting of the request would not cause allocation of the resource for the first user to exceed the first limit; denying the request in response to determining that granting the request would cause allocation of the resource for the first user to exceed the second limit; and denying the request in response to determining that total allocation of the resource to plural users including the first user would exceed the third limit. The granting and denying acts performed by claim 18 is not taught by any of the embodiments of Bechtolsheim.

Independent claim 23 is similarly allowable over Bechtolsheim.

Allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees, including extension of time fees, and/or credit any overpayment to Deposit Account No. 08-2025 (10992795-1).

Respectfully submitted,

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